

50

The drill bit as defined in Claim 1, further comprising:
a transfer member for transferring torque and weight from the first member to the second member.

51

The drill bit as defined in Claim 4, wherein the transfer member includes at least one elongate member passing through the second member and engaging at least one recess in the first member.

52

The drill bit as defined in Claim 4, wherein the transfer member includes a plurality of recesses in one of the first and second members for engaging corresponding gear components in the other of the first and second members.

53

The drill bit as defined in Claim 6, wherein the transfer member includes a threaded locking ring surrounding the first member and engaging threads on the second member.

54

The drill bit as defined in Claim 1, wherein the connecting member includes an elastomeric spacer extending between at least part of the first member and the second member.

55

The drill bit as defined in Claim 8, wherein the elastomeric spacer comprises a hydrogenated nitrile rubber having a Shore A hardness of at least 80.

56

The drill bit as defined in Claim 8, wherein the elastomeric spacer comprises a layered body having at least one elastomeric material layer and at least one metal layer.

57

The drill bit as defined in Claim 1, wherein the connecting member comprises a hollow body containing a compressible fluid.

58

The drill bit as defined in Claim 11, wherein the hollow body transfers torque transfer between the first member and the second member.

59

The drill bit as defined in Claim 1, further comprising:
each of the first and second members have cooperating passageways therein; and
a compressible seal for sealing engagement with the first member and the second member to prevent escape of fluid from the passageways in the first member and the second member.

60

The drill bit as defined in Claim 13, further comprising:
a flexible pipe providing fluid communication between the passageways in the first member and the second member.

61

The drill bit as defined in Claim 1, wherein the first member constitutes a drill bit body and the second constitutes at least one cutter movably mounted on the drill bit body.

00650586-033333
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
AA
AB
AC
AD
AE
AF
AG
AH
AI
AJ
AK
AL
AM
AN
AO
AP
AQ
AR
AS
AT
AU
AV
AW
AX
AY
AZ
BA
BB
BC
BD
BE
BF
BG
BH
BI
BJ
BK
BL
BM
BN
BO
BP
BQ
BR
BS
BT
BU
BV
BW
BX
BY
BZ
CA
CB
CC
CD
CE
CF
CG
CH
CI
CJ
CK
CL
CM
CN
CO
CP
CQ
CR
CS
CT
CU
CV
CW
CX
CY
CZ
DA
DB
DC
DD
DE
DF
DG
DH
DI
DJ
DK
DL
DM
DN
DO
DP
DQ
DR
DS
DT
DU
DV
DW
DX
DY
DZ
EA
EB
EC
ED
EE
EF
EG
EH
EI
EJ
EK
EL
EM
EN
EO
EP
EQ
ER
ES
ET
EU
EV
EW
EX
EY
EZ
FA
FB
FC
FD
FE
FF
FG
FH
FI
FJ
FK
FL
FM
FN
FO
FP
FQ
FR
FS
FT
FU
FV
FW
FX
FY
FZ
GA
GB
GC
GD
GE
GF
GG
GH
GI
GJ
GK
GL
GM
GN
GO
GP
GQ
GR
GS
GT
GU
GV
GW
GX
GY
GZ
HA
HB
HC
HD
HE
HF
HG
HH
HI
HJ
HK
HL
HM
HN
HO
HP
HQ
HR
HS
HT
HU
HV
HW
HX
HY
HZ
IA
IB
IC
ID
IE
IF
IG
IH
II
IJ
IK
IL
IM
IN
IO
IP
IQ
IR
IS
IT
IU
IV
IW
IX
IY
IZ
JA
JB
JC
JD
JE
JF
JG
JH
JI
JJ
JK
JL
JM
JN
JO
JP
JQ
JR
JS
JT
JU
JV
JW
JX
JY
JZ
KA
KB
KC
KD
KE
KF
KG
KH
KI
KJ
KK
KL
KM
KN
KO
KP
KQ
KR
KS
KT
KU
KV
KW
KX
KY
KZ
LA
LB
LC
LD
LE
LF
LG
LH
LI
LJ
LK
LL
LM
LN
LO
LP
LQ
LR
LS
LT
LU
LV
LW
LX
LY
LZ
MA
MB
MC
MD
ME
MF
MG
MH
MI
MJ
MK
ML
MM
MN
MO
MP
MQ
MR
MS
MT
MU
MV
MW
MX
MY
MZ
NA
NB
NC
ND
NE
NF
NG
NH
NI
NJ
NK
NL
NM
NN
NO
NP
NQ
NR
NS
NT
NU
NV
NW
NX
NY
NZ
OA
OB
OC
OD
OE
OF
OG
OH
OI
OJ
OK
OL
OM
ON
OO
OP
OQ
OR
OS
OT
OU
OV
OW
OX
OY
OZ
PA
PB
PC
PD
PE
PF
PG
PH
PI
PJ
PK
PL
PM
PN
PO
PP
PQ
PR
PS
PT
PU
PV
PW
PX
PY
PZ
QA
QB
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
QO
QP
QQ
QR
QS
QT
QU
QV
QW
QX
QY
QZ
RA
RB
RC
RD
RE
RF
RG
RH
RI
RJ
RK
RL
RM
RN
RO
RP
RQ
RR
RS
RT
RU
RV
RW
RX
RY
RZ
SA
SB
SC
SD
SE
SF
SG
SH
SI
SJ
SK
SL
SM
SN
SO
SP
SQ
SR
SS
ST
SU
SV
SW
SX
SY
SZ
TA
TB
TC
TD
TE
TF
TG
TH
TI
TJ
TK
TL
TM
TN
TO
TP
TQ
TR
TS
TT
TU
TV
TW
TX
TY
TZ
UA
UB
UC
UD
UE
UF
UG
UH
UI
UJ
UK
UL
UM
UN
UO
UP
UQ
UR
US
UT
UU
UV
UW
UX
UY
UZ
VA
VB
VC
VD
VE
VF
VG
VH
VI
VJ
VK
VL
VM
VN
VO
VP
VQ
VR
VS
VT
VU
VV
VW
VX
VY
VZ
WA
WB
WC
WD
WE
WF
WG
WH
WI
WJ
WK
WL
WM
WN
WO
WP
WQ
WR
WS
WT
WU
WV
WW
WX
WY
WZ
XA
XB
XC
XD
XE
XF
XG
XH
XI
XJ
XK
XL
XM
XN
XO
XP
XQ
XR
XS
XT
XU
XV
XW
XX
XY
XZ
YA
YB
YC
YD
YE
YF
YG
YH
YI
YJ
YK
YL
YM
YN
YO
YP
YQ
YR
YS
YT
YU
YV
YW
YX
YY
YZ
ZA
ZB
ZC
ZD
ZE
ZF
ZG
ZH
ZI
ZJ
ZK
ZL
ZM
ZN
ZO
ZP
ZQ
ZR
ZS
ZT
ZU
ZV
ZW
ZX
ZY
ZZ

Sub 7 ~~63~~ 18. The drill bit as defined in Claim 15, wherein the cutter is adhered to the drill bit body by an elastomeric spacer.

Cont ~~64~~ 19. An assembly for incorporating along a drill string, comprising:

a first member;

a second member;

a transfer member for transmitting weight and torque between the first member and the second member; and

a resiliently deformable connecting member extending between the first member and the second member permitting the first member to tilt with respect to the second member, and wherein the second member is connected to the first member in a free floating relationship allowing the second member to tilt and move laterally with respect to the first member under an applied load to the drill string.

64 20. The assembly as defined in Claim 17, wherein the transfer member includes a series of radial teeth on the first member which loosely engage corresponding recesses in the second member, and wherein radial outer surfaces on the teeth and opposed base surfaces of the recesses are configured for allowing tilting of the first member with respect to the second member.

65 21. The assembly as defined in Claim 18, wherein the second member is formed with a connecting means for attaching thereto of a drill bit.

66 22. Apparatus for simulating drilling, comprising:

at least one rigid rotatable body;

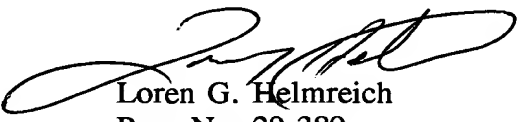
a drill bit for contacting a simulated bottom hole surface and connected to the rigid rotatable body;

a rotation member for rotating the rigid rotatable body and the drill bit; and

a flexible connector separating at least one of a rigid rotatable body and the drill bit and the rotatable member and the drill bit.--

Respectfully submitted,

Date: 2 Apr 1996
Browning, Bushman, Anderson
& Brookhart
5718 Westheimer, Suite 1800
Houston, TX 77057
Tel.: (713) 266-5593


Loren G. Helmreich
Reg. No. 29,389